

BOTANICAL SOCIETY OF LONDON.

June 7, 1844.—J. Reynolds, Esq., Treasurer, in the Chair.

Specimens of *Ænanthe peucedanifolia* and *Æ. pimpinelloides* were exhibited, accompanied by notices of their distinctive characters and habits, by Edwin Lees, Esq., F.L.S.

Much uncertainty and confusion having prevailed among British authors and distributors in regard to the distinctions between these species, the views of Mr. Lees, founded on good opportunities for observation, are deserving of particular attention. The following condensed abstract will explain the conclusions formed by this botanist.

First. *Æ. peucedanifolia* always grows in wet places, and is found both by salt and fresh water; while *Æ. pimpinelloides* is found in dry ground only.

Secondly. The characters derived from the form of the radical leaves, and the presence or absence of an involucre, will not prove sufficient to prevent confusion; but the rounded tubercles upon the roots of *Æ. pimpinelloides* will readily serve to distinguish that species from *Æ. peucedanifolia*, in which the tubercles are elongate and sessile.

Thirdly. There is some difference in the fruit of the two species, though the materials in the possession of Mr. Lees are not sufficient to state this with precision and certainty.

Mr. Lees thus attaches the first importance to the form of the root as a distinctive character, and the circumstance should instruct collectors to be mindful of the value of the root.

Specimens collected by Mr. Lees afforded the principal reason for retaining *Æ. pimpinelloides* as a British species in the 'London Catalogue of British Plants,' in preference to the adoption of Mr. Babington's change to *Æ. Lachenalii*; and one of the same specimens communicated to Mr. Ball induced that excellent botanist to admit *Æ. pimpinelloides* as well as *Æ. Lachenalii* among the indigenous species. Three species, not two only, should therefore now be looked for, and the confusion and uncertainty may thus be removed.

Most of the specimens hitherto sent to the Society have proved quite useless through the absence of roots and fruit, but it is earnestly requested by the Council that contributors will collect specimens with root and fruits from as many localities as possible.

Some highly interesting examples of the Irish Saxifrages, belonging to Haworth's genus *Robertsonia*, were exhibited from Mr. Andrews, who had obligingly sent living plants as well as dried specimens. Two of the specimens were sent in record of the fact lately doubted or denied by the accurate Mr. C. C. Babington, that the Pyrenean forms of *S. umbrosa* and *S. Geum* (with crenate leaves) are certainly native in Ireland; the specimen of *S. Geum*, indeed, being considered "even more obtusely crenate than Mr. Babington's figure (No. 8) from the Pyrenean plant." These specimens were collected "this year, from the mountains to the south of Brandon Mountain, county of Kerry."

S. hirsuta is considered by Mr. Andrews to be a hybrid form be-

tween *S. Geum* and *S. umbrosa*, "as many of the varieties present characters leaning either more or less to the one species or the other."

S. elegans is deemed by Mr. Andrews to be simply a variety of *S. umbrosa*. And after careful examination of the forms of *S. hypnoides*, he is now "satisfied that *S. affinis*, *incurvifolia*, *hirta* and *pal-mata* are all mere varieties, or indeed barely deserving the name of varieties."

Read "A Synoptical View of the British Fruticose *Rubi*, arranged in groups, with explanatory remarks" (part 3), by Edwin Lees, Esq., F.L.S. The paper was accompanied by drawings and specimens.

July 5.—Dr. Francis Bossey in the Chair.

Specimens of the following plants were exhibited, sent to the Society by Mr. Hewett Watson:—

Carex elongata (Linn.), found abundantly in Weybridge marshes. This locality is interesting to the metropolitan botanist, the nearest habitat previously on record being in the county of Salop.

A pubescent-flowered variety of *Bromus commutatus* (Schrud.), found plentifully along with the more abundant glabrous form in a meadow by the river Mole, between Esher and West Moulsey, Surrey. This variety affords another instance to prove the little importance which can be given to the character of smooth or downy flowers as a specific distinction in this genus. It will form an addition to the 'London Catalogue of British Plants' (*C. pubens*), to be entered under "*Bromus* (1355) *commutatus*."

A specimen of *Lolium multiflorum*, the root of which was dug up when in flower in a sown field last year, and the plant is now copiously flowering in Mr. Watson's garden; thus proving its perennial existence, although the alleged annual root of *L. multiflorum* has been considered the best distinction between this supposed species and *L. perenne*. The other alleged differences are equally invalid.

Garden specimens of *Festuca pratensis* (Huds.) and *F. arundinacea* (Schreb.), to show the strongly marked differences between them; the latter being three times the size, extremely harsh to the touch, and very dissimilar in its flowers and mode of inflorescence. In *F. pratensis* the branches of the panicle are erect after flowering, the paleæ or glumes obtuse and awnless, and the sheaths of the leaves nearly smooth; in *F. arundinacea* the branches of the panicle are horizontal or reflexed, the glumes acute and awned, and the sheaths and leaves very rough.

Mr. Watson admitted *Festuca loliacea* and *pratensis* to be forms of one species; indeed he had shown this to the Edinburgh botanists just after they had printed their Catalogue, in which *F. loliacea* is kept as a distinct species, while *F. pratensis* is united with *F. elatior* (Linn.). But he was not yet prepared to combine all three and *F. arundinacea* likewise under the one name of *F. elatior*, as is done by Mr. Babington. Mr. Watson's plant of *F. arundinacea* was originally brought to his garden from the Isle of Wight, and is now a large sheaf with hundreds of flowering stems, five to seven feet high, and the root-leaves half a yard long.

A specimen of *Ænanthe pimpinelloides* (Linn.), to show the cylindrical form of the fruit, which exactly corresponds with that of the Sardinian plant (admitted to be the true species), except in having less callosity at the base. This was taken from a plant in Mr. Watson's garden, the parent of which had been brought thither from a hedge-bank in the Isle of Wight. Mr. Watson recognised a second species in Britain, often sent to him under the name of *Ænanthe peucedanifolia*, and readily distinguished by its turbinate or elliptic fruit, upon extremely short pedicels, and more resembling *Æ. globulosa* than *Æ. pimpinelloides*. The peculiar form of the root in some other specimens, resembling that of a dahlia in miniature, induces a supposition that these may be a third species, although Mr. Watson has satisfied himself that the roots vary greatly with age and situation, and do not afford such certain characters for distinction as may be found in the fruit. The *Æ. Lachenalii* (of Babington's 'Manual') is apparently the species frequently sent under the name of *Æ. peucedanifolia*, though occasionally named *Æ. pimpinelloides* by English botanists. Mr. Watson would illustrate this subject more fully on another occasion.

Specimens of the garden fennel, to show the little importance to be attached to the difference of the stems being fistulose or filled with pith. These specimens were sections of stems arising from a single root, of different dimensions, but of nearly equal age and stage of development. Some of them (the thicker) were hollow, others filled with pith. A question respecting a distinction of species between the wild and garden fennels has been raised in consequence of one author describing the stems as fistulose, while another finds them solid; but since both conditions can exist on one root at the same time, such a distinction would be quite inadmissible for a specific character.

A stem of *Hieracium Lawsoni*, which had borne twenty flowers in Mr. Watson's garden this spring, and others had flowered more numerously than this one. In the wild state on the Grampians (the locality from which the plants were brought three years ago) this species has usually two, three, or four flowers only. He had seen a wild Irish specimen with six or eight flowers. No care had been bestowed upon the plants in his garden, except occasional watering in dry weather, and removal of weeds from about them. Mr. Watson sent the specimen merely as an example of the little dependence to be placed upon the number of flowers in the *Hieracia*; indeed among the Compositæ generally. A wild plant, growing free from the interference of other plants about it, might also increase its flowers five or tenfold, as practical botanists must be well aware from observation.

Read "A Synoptical View of the British Fruticose *Rubi*, arranged in groups, with explanatory remarks" (part 4), by Edwin Lees, Esq., F.L.S. The paper was accompanied by drawings and specimens.

August 2.—J. Reynolds, Esq., Treasurer, in the Chair.

Mr. G. S. Gibson and Mr. J. Tatham, jun., presented specimens of a new British plant, *Spergula stricta* of Swartz (*Arenaria uliginosa*, Schleich. and DeCand.; *Alsiantha stricta*, Fenzl and Reichenbach),

discovered by them in June last (in company with Mr. James Backhouse and son and Mr. Sylvanus Thompson) near the top of the Weddy Bank Fell, about ten miles west of Middleton in Teesdale, and five from the High Force in Durham; the elevation was about 1800 feet. The locality was confined to a very small space.

Specimens of *Anemone ranunculoides* were presented by Mrs. M. Stovin, found *wild* in a wood near Worksop, Nottinghamshire. Specimens from this locality were presented in June last; and in a letter to the Secretary, Mrs. Stovin observes, "the more I see and hear of this plant in the Nottingham station, the more am I convinced of its being wild."

The concluding portion of Mr. Lees's elaborate paper on the British Fruticose species of *Rubus* was read, and several specimens and drawings exhibited in illustration of the views contained in the essay.

GEOLOGICAL SOCIETY.

Nov. 29, 1843.—Prof. Sedgwick concluded his memoir, "On the Geology of North Wales," read June 21, 1843.

The author maintains the threefold division of the older rocks. The middle division is now illustrated by more detailed sections, especially through different parts of the Berwyn chain. The first and principal section is from the porphyries of Arrenig across the Lake of Bala, and over the crest of the Berwyns to Llangynog. The whole of this section is placed in a fossiliferous system, and the thickness of the beds actually associated with fossils is several thousand feet. The difference between this result and one stated by Mr. Sharpe, is accounted for, first, by a different computation of the thickness of certain beds about the position of which there is no doubt, and, secondly, by a different interpretation of phenomena, Mr. Sharpe terminating his section abruptly against a supposed fault, while Professor Sedgwick makes a regular ascending section, and places in the highest part of the series certain beds which Mr. Sharpe calls *Cambrian*, and regards as a part of a lower and non-fossiliferous group. In short, Professor Sedgwick extends his section among the fossil groups several miles to the east of the supposed line of fault of Mr. Sharpe. Other sections are described, drawn through the southern part of the Berwyns, which is shown to rest on a great trough formed by the Bala limestone. The author then gives a general and detailed account of the physical structure of the whole Berwyn chain, which measured, on the curved line of the water-shed, is not less than thirty miles long. The whole crest of this chain, with the exception of about five miles, is composed of beds superior to the Bala limestone. The author then describes the sections on the east side of the Berwyns, and the section on the Ceiriog and the Dee, which connect the part of the protozoic group, which is the exact equivalent of the Caradoc sandstone, with the Denbigh flagstone, which represents the upper Silurian rocks of Mr. Murchison. After discussing the sections in detail he draws the following conclusions:—

1. The base of the fossiliferous system is unknown, for beds (occa-